



**EASE** EuropeAn network of  
**steam** Educators



# LESSON PLAN

by Lidia Ristea  
from Romania

lidiaristea2004@yahoo.com

## TITLE:

Game-based learning using VR for ecosystem conservation

GRADE LEVEL: 5TH GRADE TO 9TH GRADE

STEAM AREAS: TECHNOLOGY, SCIENCE, ARTS

## MATERIALS NEEDED:

- Virtual Reality Headsets (enough for each student or small groups);
- VR ecosystem conservation simulation/game;
- Worksheets or journals;
- Writing utensils;
- Classroom computer/projector for introduction.

## OBJECTIVES:

- Self-awareness and self-management skills through responsible decision-making and consequence-based behavior;
- To understand the importance of ecosystem conservation and the role they can play in it through immersive VR experiences;
- To developing practical skills by creating useful products that include knowledge.

## PROCEDURE:

### First step:

#### Introduction (10 minutes):

Begin with a brief discussion on ecosystems and their importance.

Introduce the concept of virtual reality and its potential for immersive learning experiences.

Explain the objective of the lesson: to explore ecosystem conservation through VR.

#### Main Activity (35 minutes):

Divide students into small groups (3-4 students per group) and distribute VR headsets. Provide instructions on how to use the VR equipment and access the ecosystem conservation simulation/game.

Allow students time to explore the VR simulation/game. The students will be encouraged them to interact with the environment, to identify different species, and observe ecosystems.

Circulate among the groups to provide assistance and guidance as needed.

After the exploration period, gather the students together for a discussion.

## PROCEDURE:

### Discussion (15 minutes):

Lead a discussion on students' experiences during the VR activity. Ask guiding questions such as:

- What did you observe in the virtual ecosystem?
- How did the VR experience enhance your understanding of ecosystem conservation?
- What challenges did you encounter in the virtual environment?
- What actions can individuals take to conserve ecosystems based on what you learned?

Encourage the students to share their thoughts and reflections.

Summarize the key points of the discussion and emphasize the importance of individual and collective efforts in ecosystem conservation.

### Conclusion (5 minutes):

The students will complete a short reflection activity individually or in their groups. They can write about what they learned, any new insights they gained, and how they can apply this knowledge to real-world conservation efforts.

Collect the reflections or have students share them with their groups/classmates and to post on a page Padlet for comments.

### Extension Activity can be optional:

Assign students to research a specific ecosystem and create a presentation or poster highlighting its biodiversity, threats, and conservation efforts.

Encourage students to explore other VR simulations/games related to environmental conservation and share their findings with the class.

### Second Step:

1. Connect on the platform <https://hubs.mozilla.com/spoke/login>
2. Click on "GET Started";
3. New project;
4. Add content;
5. For more details here: <https://hubs.mozilla.com/docs/spoke-architecture-kit.html>

### ASSESSMENT:

- Assessment can be based on students' participation in the VR activity, their contributions to the discussion, and their reflections;
- Questionnaires in EducaPlay.

### REFERENCES:

- <https://www.classvr.com/virtual-reality-in-education/>
- <http://www.sitesinvr.com/>
- <https://ocean-rift-picselica.en.aptoide.com/app>
- <https://labs.mozilla.org/connect/>
- <https://educaplay.com>- for quizzes